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FINAL STATEMENT OF REASONS

CALIFORNIA CODE OF REGULATIONS

TITLE 8: Division 1, Chapter 4, Subchapter 7, Article 109, Section 5168
of the General Industry Safety Orders and Chapter 4, Subchapter 15, Article 5, Section 6775 of
the Petroleum Safety Orders-Refining, Transportation and Handling

Static Electricity

MODIFICATIONS AND RESPONSE TO COMMENTS RESULTING FROM THE 45-DAY PUBLIC COMMENT PERIOD

There are no modifications to the information contained in the Initial Statement of Reasons except for the following substantive and sufficiently-related modifications that are the result of public comments and/or Board staff evaluation.

Section 5168. Static Electricity.

This section addresses operations that have the potential to create static electrical charges (such operations as: use of oxidizers, cleaning operations, and purging). This section also addresses bonding and grounding methods and devices used to control static discharge.

Amendments are proposed to add the terms “water” and “grit” in subsection (b) as cleaning media and specify that the components of the systems that use air, water, grit and steam are to be grounded as well as bonded as currently required. Subsection (b) is amended further by proposed language that reminds the reader that Section 5420 requirements for purging and testing tanks or vessels for residual levels of solvent that could ignite in the presence of an ignition source are to be complied with prior to commencing work.

Modifications are proposed in the first sentence to add the words “high pressure” before the word “water” and add “cleaning systems” after the words “water” and “grit” to clarify to the employer that Section 5168(b) applies to high pressure spraying situations involving cleaning systems that are prone to the build up of static charge. Further modification of Section 5168(b) is proposed to add an exception to clarify that the nozzle of high pressure water cleaning systems used to clean tanks or vessels 100 cubic meters or less in size need not be grounded or bonded to the tank or vessel shell provided all other conductive components are grounded and steam cannot enter the workspace. The exception would also clarify to the employer that the risk of hazardous

static charge build-up during water spray cleaning operations is a grounding and bonding concern only for large tanks and vessels as specified.

The proposed exception is necessary to ensure the employer understands that consistent with the water washing standard contained in NFPA 77, bonding of the water sprayer nozzle is not required provided other conductive portions of the cleaning system are grounded. Static discharge becomes a problem during water washing in tanks larger than 100 cubic meters, a volume derived from the NFPA 77 standard. Excluded are tanks or vessels where the size of the mist cloud is insufficient to generate a static discharge. According to the NFPA 77 standard, tanks and vessels with an interior volume greater than 100 cubic meters can result in a mist cloud large enough to begin to generate static charges.

Section 6775. Static Electricity.

This section specifies requirements designed to reduce and control the propagation of static electrical discharge and addresses grounding and bonding methods, strength requirements for ground and bonding conductors, use of flexible conductors, attachment of grounding and bonding clamps and clips and the design of static bonding installations.

Subsection (c) contains language that is identical to that contained in GISO Section 5168(b) addressing the control of static discharge for equipment and various cleaning systems involving the use of steam, air, and inert gas.

Amendments are proposed to add the terms “water” and “grit” in subsection (c) as cleaning media and to specify that the components of the systems that use air, water, grit and steam are to be grounded as well as bonded. Subsection (c) is amended further by proposed language that reminds the reader that the requirements for purging and testing tanks or vessels contained in Sections 5420 and 5168 are to be complied with prior to the start of work.

Modifications are proposed in the first sentence to add the words “high pressure” before the word “water” and add “cleaning systems” after the word “water” and “grit” to clarify to the employer that Section 5168(b) applies to high pressure spraying situations involving cleaning systems that are prone to the build up of static charge. Further modification of Section 6775(c) is proposed to add an exception to clarify that the nozzle of high pressure water cleaning systems used to clean tanks or vessels 100 cubic meters or less in size need not be grounded or bonded to the tank or vessel shell provided all other conductive components are grounded and steam cannot enter the workspace. The exception would also clarify to the employer that the risk of hazardous static charge build-up during water spray cleaning operations is a grounding and bonding concern only for large tanks and vessels as specified.

The proposed exception is necessary to ensure the employer understands that consistent with the water washing standard contained in NFPA 77, bonding of the water sprayer nozzle is not required provided other conductive portions of the cleaning system are grounded. Static

discharge becomes a problem during water washing in tanks larger than 100 cubic meters, a volume derived from the NFPA 77 standard. Excluded are tanks or vessels where the size of the mist cloud is insufficient to generate a static discharge. According to the NFPA 77 standard, tanks and vessels with an interior volume greater than 100 cubic meters can result in a mist cloud large enough to begin to generate static charges.

Summary and Response to Oral and Written Comments:

I. Written Comments

Mr. Richard S. Terrill, Acting Regional Administrator, U.S. Department of Labor, Occupational Safety and Health Administration, Region IX, by letter dated March 26, 2008.

Comment:

Mr. Terrill summarized the proposal and concluded that the proposed standard is at least as effective as the federal standard.

Response:

The Board acknowledges the Region IX advisory opinion and thanks Mr. Terrill for his participation in the rulemaking process.

Ms. Elizabeth A. Treanor, Director, Phylmar Regulatory Roundtable, by letter dated April 17, 2008.

Comments 1 and 2:

In comment 1, Ms. Treanor suggested the Board clarify the intent of Section 5168 which is described in the Initial Statement of Reasons by including language in the Final Statement of Reasons that clarifies that high pressure water cleaning systems are static electricity risks and that grounding and bonding should only be required for tanks and vessels larger than 100 cubic meters. Ms. Treanor noted experiences of Phylmar clients who use water and humidity to control static build-up and that the NFPA 77 standard does not specifically identify water as a static electricity hazard. In comment 2, Ms. Treanor suggested that Section 5168 be revised to add clarifying terminology pertaining to high pressure cleaning systems and the 100 cubic meter volume specification mentioned in the NFPA 77 standard.

Response:

The Board notes that the NFPA 77-2007 Standard, Chapter 8.12 Tank Cleaning addresses water washing in Chapter 8.12.1. The 100 cubic meter criterion described in the NFPA 77 standard only applies to water washing operations where all other conductive water washing system components are grounded and there is no possibility for steam to enter the tank or vessel. It does

not apply to washing operations involving other types of cleaning media. Therefore, consistent with the NFPA 77 standard, the Board proposes to modify Sections 5168(b) and 6775(c) to clarify that they apply to high pressure water and grit cleaning systems and to provide an exception that would not require the nozzles of high pressure water cleaning systems used to clean tanks or vessels 100 cubic meters or less in size to be grounded and bonded to the tank or vessel shell provided all other conductive components are grounded and intrusion of steam in to the tank or vessel is not possible.

Comment No. 3

Ms. Treanor stated that it would be helpful to the employer if the requirement contained in Section 5420 were included in Section 5168.

Response:

Title 8 contains many cross-references and the Board believes that the use of cross-references results in greater clarity that would be achieved by repeating extensive provisions in multiple standards. Therefore, the Board declines to make the change urged in this comment.

The Board thanks Ms. Treanor for her comments and participation in the Board's rulemaking process.

II. Oral Comments

Oral comments received at the April 17, 2008, Public Hearing in Sacramento, California.

Ms. Elizabeth Treanor, Director, representing Phylmar Regulatory Roundtable.

Comment:

Ms. Treanor presented the comments contained in her April 17, 2008, letter.

Response:

See the Board's response to Ms. Treanor's written comment in the written comments section above.

MODIFICATIONS AND RESPONSE TO COMMENTS RESULTING FROM THE 15-DAY NOTICE OF PROPOSED MODIFICATIONS

No further modifications to the information contained in the Initial Statement of Reasons are proposed as a result of the 15-Day Notice of Proposed Modifications mailed on May 23, 2008.

Summary and Response to Written Comments:

No written comments were received.

ADDITIONAL DOCUMENTS RELIED UPON

None.

ADDITIONAL DOCUMENTS INCORPORATED BY REFERENCE

None.

DETERMINATION OF MANDATE

These standards do not impose a mandate on local agencies or school districts as indicated in the Initial Statement of Reasons.

ALTERNATIVES CONSIDERED

The Board invited interested persons to present statements or arguments with respect to alternatives to the proposed standard. No alternative considered by the Board would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the adopted action.